ABSTRACT

The invention is based on selective inhibition of the enzyme (MMP-1), which causes the dermal matrix damage in humans, while sparing the enzyme(s) (MMP-9 and perhaps MMP-2) which not only do not cause the damage (based on extrapolation from our *in vitro* collagen gel system to real skin) but actually "clear away" the damage produced by MMP-1 to restore normal function to the skin. Matrix metalloproteinase-1 (MMP-1; fibroblast collagenase) is induced by UV radiation from the sun and is naturally elevated in old age. Human fibroblasts exposed to the degradation products of MMP-1 contract collagen, but when this debris is removed from their environment, the fibroblasts behave normally. Inhibiting MMP-1 but sparing enzymes that remove the debris improves human skin after onslaught from solar UV radiation, old age, and acne.